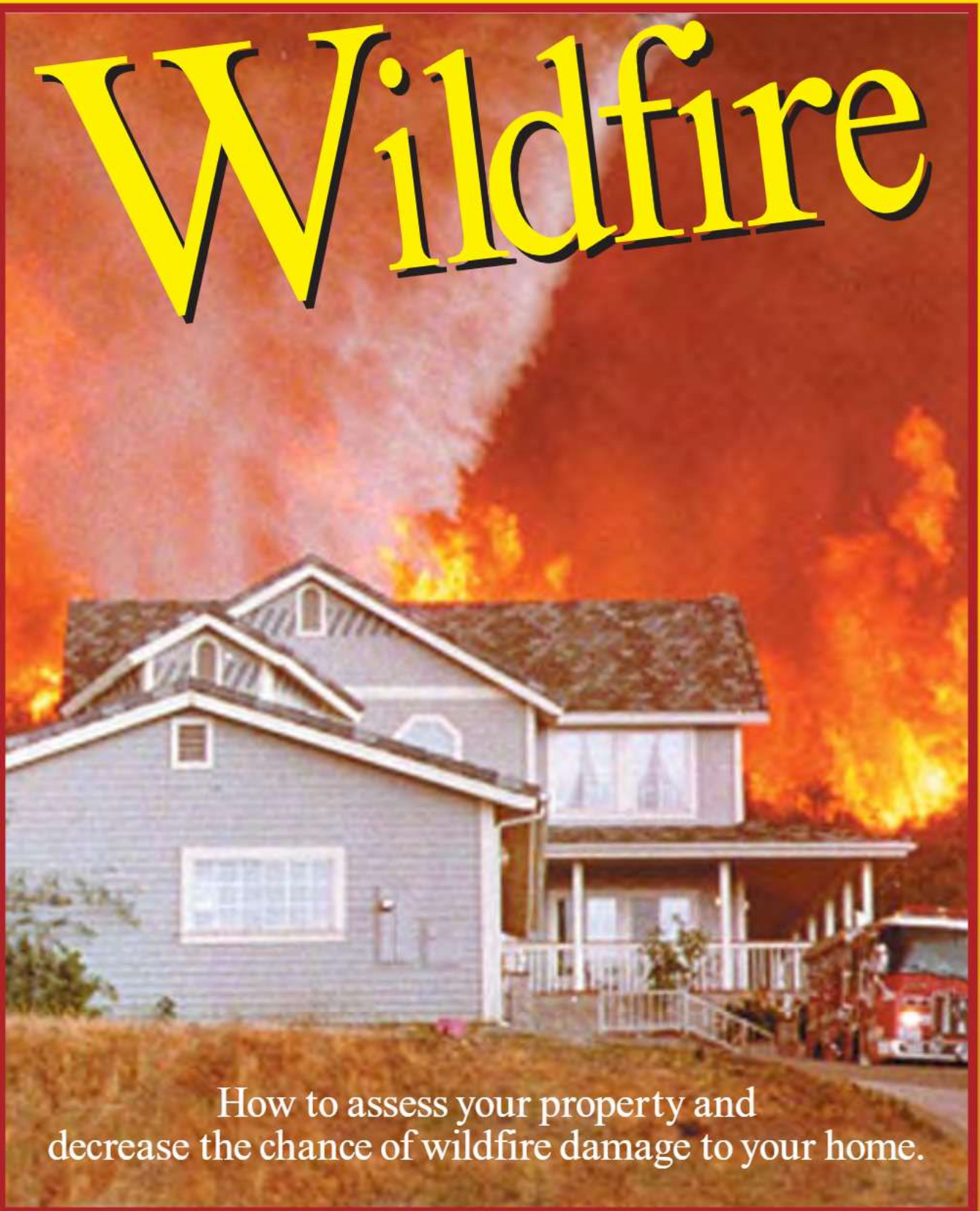


L I V I N G W I T H

Wildfire



How to assess your property and
decrease the chance of wildfire damage to your home.

Missouri Department of Conservation
State Fire Marshal

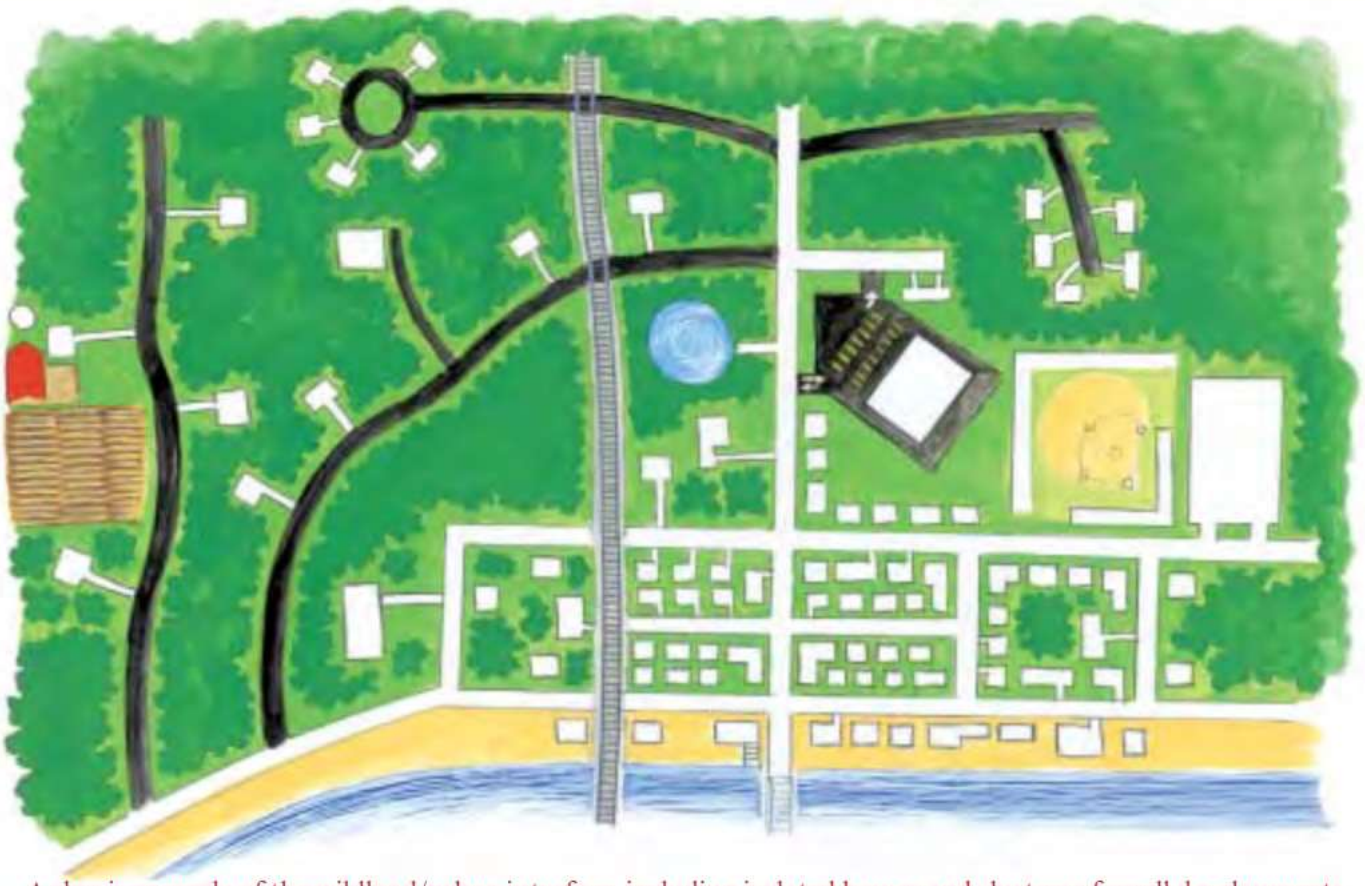
What is the Wildland/Urban Interface?

Land ownership patterns in Missouri are changing as large ownerships are broken up into subdivisions and small farms and woodlots. This is especially evident in the rapidly expanding areas around Missouri's recreational lakes. Retirement homes and summer cabins are being built in the forest without thought to using fire-resistant building materials, fire protection and creating a defensible space around the home. Compounding the problem is that nearly all natural cover fires in these areas are caused by people.

The term wildland/urban interface describes any area where potentially dangerous wildland fuels, such as

forests, old fields and grasslands, are found next to homes and other outbuildings. Because of their location, these structures are extremely vulnerable to fire should a wildfire occur in the surrounding area. Yet, individuals and developers continue to build in these areas without giving a second thought as to how their homes will fare when threatened by wildfire.

There are a number of preventive measures that homeowners can take to reduce hazards and potential damage to their property. This publication will help homeowners assess their property and take steps to decrease possible wildfire damage to their homes.



A classic example of the wildland/urban interface, including isolated homes and clusters of small developments.

Acknowledgments

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What is Defensible Space?

Defensible space is an area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of a wildfire toward the building. It also reduces the chance of a structure fire moving from the building to the surrounding forest.

Defensible space provides room for firefighters to do their jobs. Your home is more likely to withstand a wildfire if grass, brush,

trees and other fuels are managed to reduce a fire's intensity. Proper landscaping techniques applied before a wildfire may be the only protection against destruction. Mowing, pruning and thinning trees, as well as proper plant selection and irrigation should be routine. Statistics show that homes with a defensible space have a greater chance of survival.

The Fire Environment

The fire environment is made up three primary factors that influence fire behavior: weather, topography and fuel. These three factors affect the likelihood a fire will start, the speed and direction it will burn, intensity at which the fire burns and the ability of firefighters to control the fire. Weather and topography cannot be changed, however fuels can be modified. Opportunities to reduce wildfire threats lie in proper management of vegetation.

Weather:

Dry, hot and windy weather increases the likelihood of a major wildfire. These conditions make ignition easier, allow fuels to burn more rapidly and increase fire intensity. In Missouri, high fire danger occurs mostly in the spring months.

Topography:

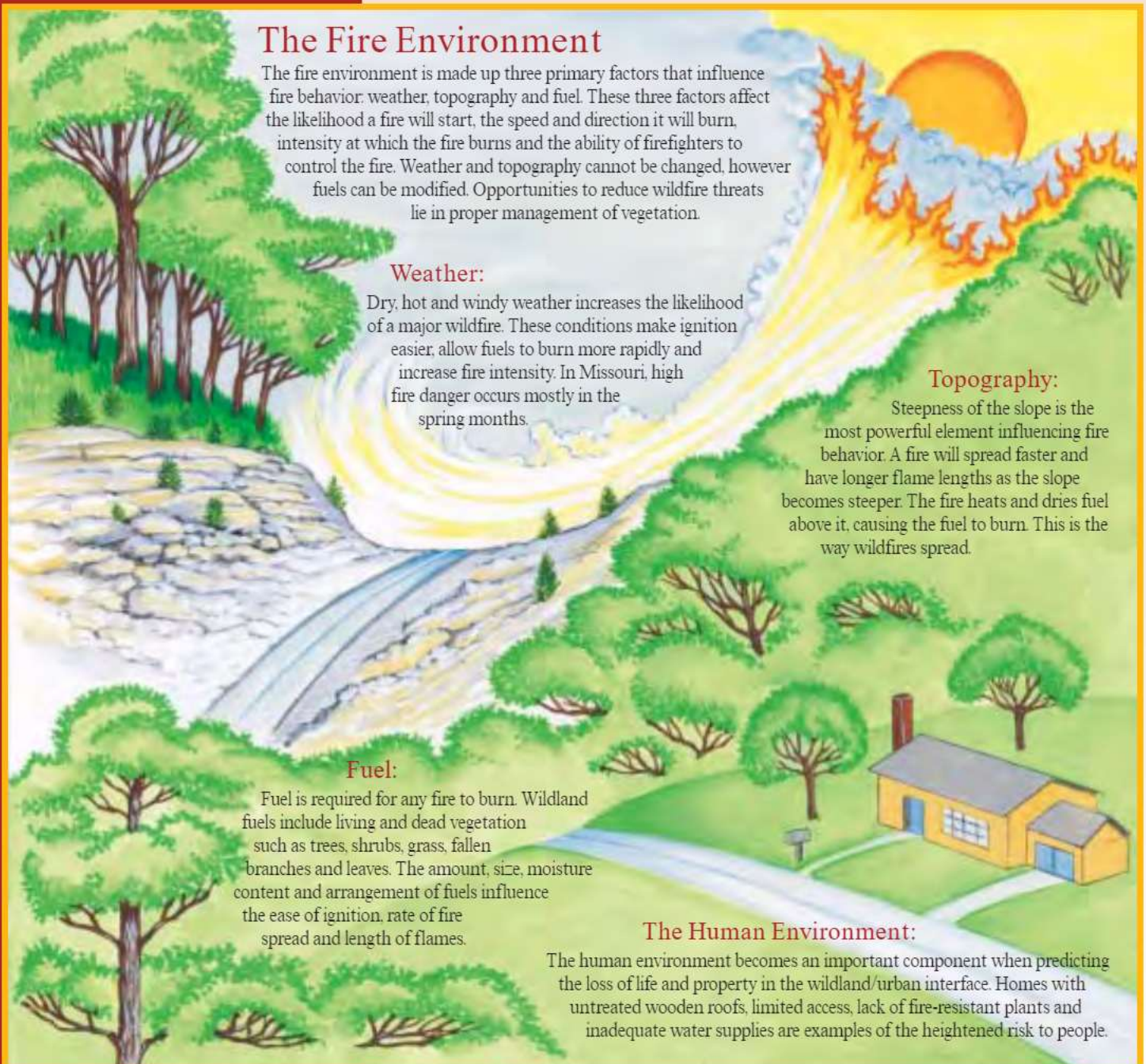
Steepness of the slope is the most powerful element influencing fire behavior. A fire will spread faster and have longer flame lengths as the slope becomes steeper. The fire heats and dries fuel above it, causing the fuel to burn. This is the way wildfires spread.

Fuel:

Fuel is required for any fire to burn. Wildland fuels include living and dead vegetation such as trees, shrubs, grass, fallen branches and leaves. The amount, size, moisture content and arrangement of fuels influence the ease of ignition, rate of fire spread and length of flames.

The Human Environment:

The human environment becomes an important component when predicting the loss of life and property in the wildland/urban interface. Homes with untreated wooden roofs, limited access, lack of fire-resistant plants and inadequate water supplies are examples of the heightened risk to people.

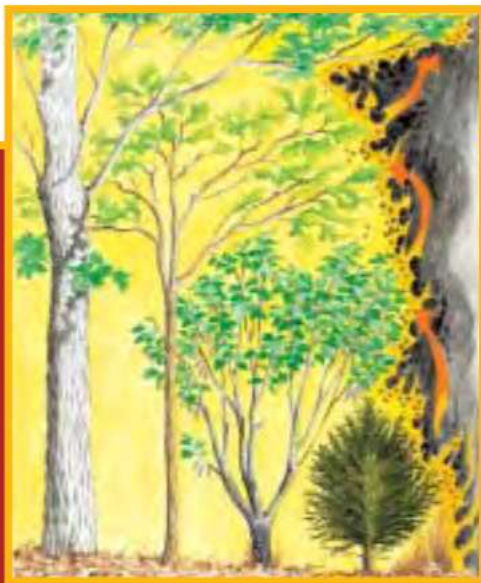


The Three Zones of Defensible Space

ZONE 1: Defensible Space

30' from structures on level ground. Increase by 10' for each additional 10 percent of slope.

Zone 1 is the most important space if you live in the wildland/urban interface. It is the area of maximum modification and treatment and it should be designed as a barrier to fire. It must be defensible if firefighters are to make a stand here.

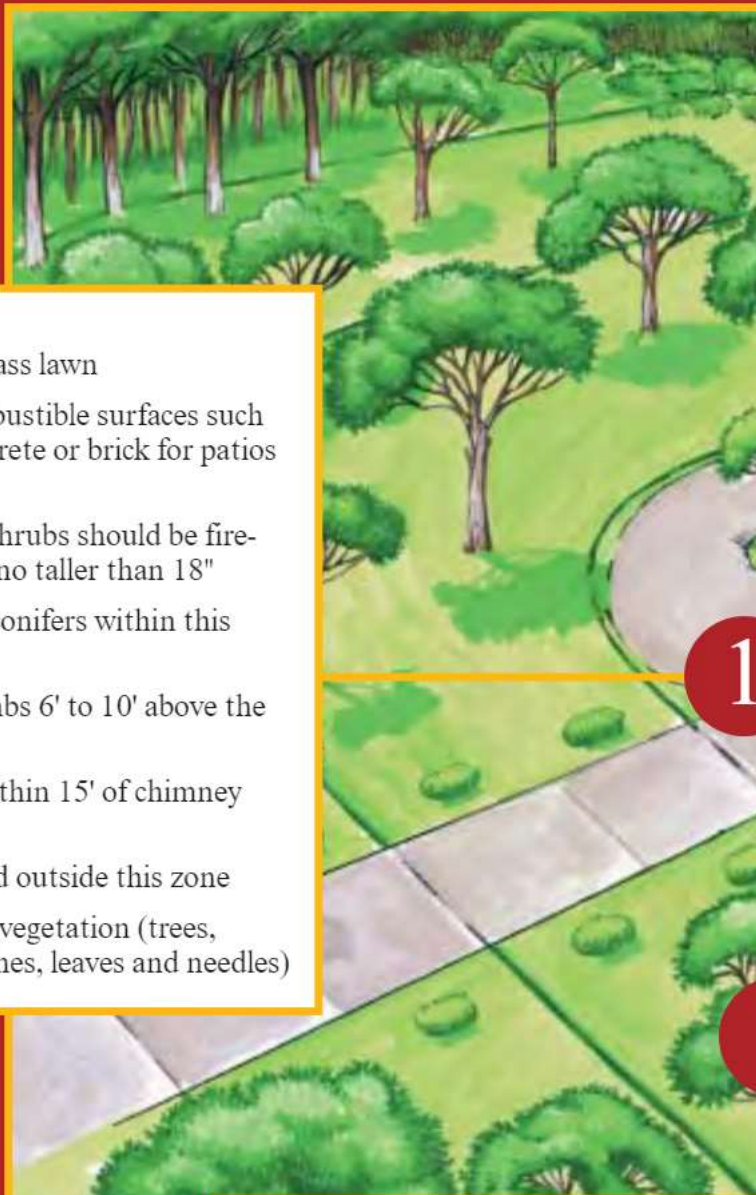


Ladder fuels are created when vegetation of different heights is close enough to allow a surface fire to become a crown fire.

Percent
Slope

50% (27°)
40% (22°)
30% (17°)
20% (11°)
10% (6°)
0% (0°)

- △ Maintain a grass lawn
- △ Use non-combustible surfaces such as stone, concrete or brick for patios and decks
- △ Ornamental shrubs should be fire-resistant and no taller than 18"
- △ Eliminate all conifers within this zone
- △ Prune tree limbs 6' to 10' above the ground
- △ Trim limbs within 15' of chimney or roof
- △ Stack firewood outside this zone
- △ Remove dead vegetation (trees, shrubs, branches, leaves and needles)



ZONE 2: The Mid-Zone

30'-70' from structures on level ground. Increase by 10' for each additional 10 percent of slope.

Zone 2 is a transitional area between Zones 1 and 3. It is an area of fuel reduction and for landscaping with fire-resistant trees and shrubs and planting orchards and gardens.

- △ Spacing should be as wide as possible
- △ Prune low trees 6' to 10' above the ground
- △ Plant on trees and shrubs





between shrubs
at least twice
as their height
lower limbs of
to 10' from

- △ Keep grass mowed
- △ Clear vegetation within 10' of woodpiles and LP tanks

ly fire-resistant
d shrubs



Ground

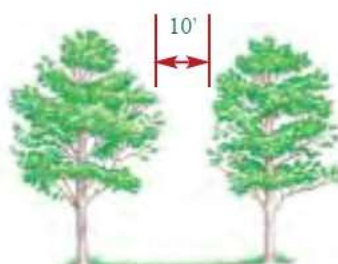
On Steep Slopes

ZONE 3: The Outermost Zone

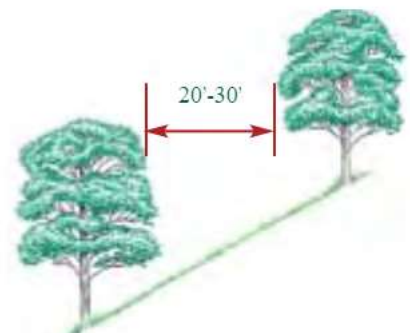
70' or more from structures.

Zone 3 is an area of traditional forest management. It extends from the outside edge of Zone 2 for several hundred feet or to your property boundary.

- △ Thin trees so there is at least 10' of space between crowns
- △ Prune tree limbs to 10' from the ground
- △ No accumulation of dead wood on ground
- △ No groups of dead trees



On Level Ground



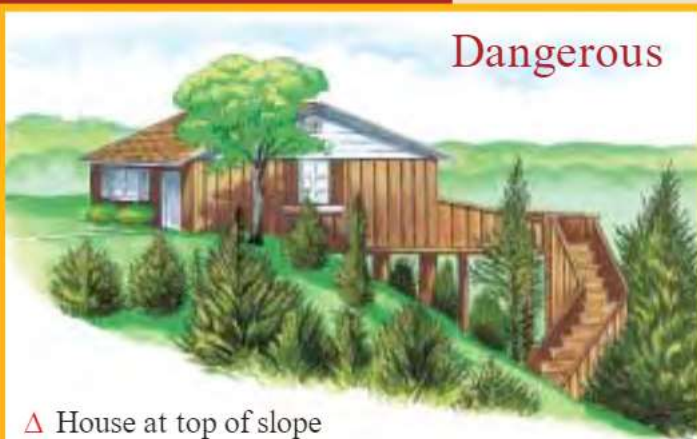
On Steep Slopes

Location

The location of a structure is an important aspect of home safety in the wildland/urban interface. While the view from a hilltop may be breathtaking, a home built too close to a steep slope is more prone to being caught in the path of flames

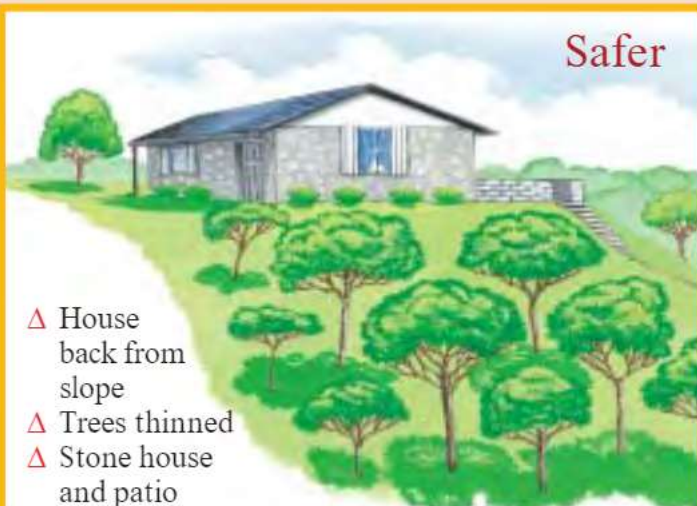
racing up the hillside. Narrow passages between hills are also poor locations. As a fire moves uphill, pre-heating and spot fires occur ahead of the main fire. Choose a location that is level or at least 30 feet back from a steep slope.

Dangerous



- △ House at top of slope
- △ Unthinned conifers close to wood deck
- △ House with wood siding and shingles

Safer



- △ House back from slope
- △ Trees thinned
- △ Stone house and patio

Firescaping Fire Safe Landscape Design

Firescaping is a type of landscape design that reduces a home's vulnerability to a wildfire. The goal is to develop and design a landscape with plants that offer fire protection and still enhance the property. The idea is to surround the home with plants that are less likely to burn.

There is no such thing as a fireproof plant. Any plant will burn under the right conditions; however, a fire-resistant landscape puts a natural fire barrier around your home. Plants may be classified as fire-resistant or flammable.

Fire-resistant plants are less flammable. Characteristics of fire resistant plants are:

- △ Little or no seasonal accumulation of dead leaves
- △ Non-resinous wood and leaves
- △ High moisture content of leaves
- △ Drought tolerant

Examples: most native deciduous trees and shrubs, such as oak, hickory, maple, ash, dogwood, redbud and sumac.

Flammable plants will burn readily or quickly. Characteristics of flammable plants are:

- △ Needle-like or other fine leaves
- △ Resinous, oily or waxy foliage or wood
- △ Loose or papery bark

Examples: most conifers, such as junipers, pines and cedars.

Fire-resistant plants should be selected for their ability to survive in Missouri's environment. Contact your nearest Conservation Department forester or University Extension Office for recommendations on suitable plant species.



Building and Remodeling Materials

Building or remodeling in a fire-prone area demands the use of fire-resistant materials. Listed below are recommended fire-resistant building materials:

- △ Non-combustible roofing materials such as Class C asphalt shingles, aluminum, steel, slate or tile—not wood shingles
- △ A fire-resistant sub-roof
- △ Tempered safety glass for patio doors and large windows
- △ Double-pane glass for smaller windows and skylights
- △ Non-flammable screening shutters for windows and skylights
- △ Fire-resistant drapes
- △ Metal doors
- △ Exteriors of stucco, masonry, stone or block—not vinyl
- △ Fire-resistant gypsum wallboard between garage and the main home
- △ Vents should be covered with wire mesh no larger than 1/8"
- △ Residential sprinkler systems
- △ Smoke detectors

Access to Your Home

- △ Identify at least two exits from your neighborhood
- △ Construct roads at least 16' wide
- △ Design road width, grades, curves, turnarounds and bridges for large emergency vehicles
- △ Make sure your road name is clearly posted
- △ Post names and address of occupants at driveway entrance
- △ Prune overhanging branches above roads

Report Forest Arson

Forest fires are a problem everywhere, but here in Missouri they are serious. The Missouri Conservation Department reports that arsonists deliberately set 50 percent of the wildfires in the state each year, careless trash burning accidentally starts 40 percent and another 10 percent start from miscellaneous causes.

Operation Forest Arson, a combined effort of the Missouri Conservation Department, U.S. Forest Service and the

Conservation Federation of Missouri, is an effort to reduce the number of arson fires in the state. It is a way for concerned citizens to remain anonymous while they help put an end to arsonists.



Operation Forest Arson enables citizens to report arsonists by a toll free hotline, 1-800-392-1111. Callers are assigned a code number and can make arrangements to receive a non-traceable bank draft after arrest and conviction of the arsonist.

For More Information

Missouri Department of Conservation:
P. O. Box 180, Jefferson City, MO 65102
(573) 751-4115
www.conservation.state.mo.us/forest/

Firewise:
www.firewise.org

National Interagency Fire Center:
www.nifc.gov

FEMA Fire Facts:
www.fema.gov/library/wildlanf.htm

USDA Forest Service:
www.fs.fed.us/fire/

A Safety Checklist for Your Home



- | | | |
|---|--|--|
| <input type="checkbox"/> 1. Remove dead branches hanging over roof. | <input type="checkbox"/> 9. Build concrete or stone patios instead of wooden decks. | <input type="checkbox"/> 15. Clearly mark all emergency water sources. |
| <input type="checkbox"/> 2. Remove any branches within 15' of your chimney. | <input type="checkbox"/> 10. Install outside water hydrants and have garden hose attached. | <input type="checkbox"/> 16. Construct roads at least 16' wide. |
| <input type="checkbox"/> 3. Clean all dead leaves and needles from roof and gutters. | <input type="checkbox"/> 11. Stack woodpiles at least 30' away from structures. | <input type="checkbox"/> 17. Design road width, grades, curves, turnarounds and bridges for large emergency vehicles. |
| <input type="checkbox"/> 4. Cover chimney opening with a nonflammable screen of 1/2" or smaller mesh. | <input type="checkbox"/> 12. Locate LP gas tanks at least 30' away from structures and clear vegetation within 10' of tank. | <input type="checkbox"/> 18. Make sure your road is clearly named or numbered and a sign is posted at each intersection. |
| <input type="checkbox"/> 5. Soak fireplace and barbecue ashes in a metal bucket of water before disposal. | <input type="checkbox"/> 13. Clear vegetation at least 10' away from burning barrels; cover top of barrel with a screen. | <input type="checkbox"/> 19. Post names and address of occupants at driveway entrance. |
| <input type="checkbox"/> 6. Build home away from ridgetops. | <input type="checkbox"/> 14. Maintain 30' defensible space all around home: green lawn, fire-resistant foundation plants less than 18" tall and hardwood tree branches pruned 6' to 10' from the ground. | <input type="checkbox"/> 20. Designate an emergency meeting place outside your home. |
| <input type="checkbox"/> 7. Use fire-resistant building materials. | | |
| <input type="checkbox"/> 8. Install double- or triple-pane windows. | | |

Please notify your fire department if you plan to do any controlled burning.



Contact your local fire department or Conservation Department office for more fire safety tips.